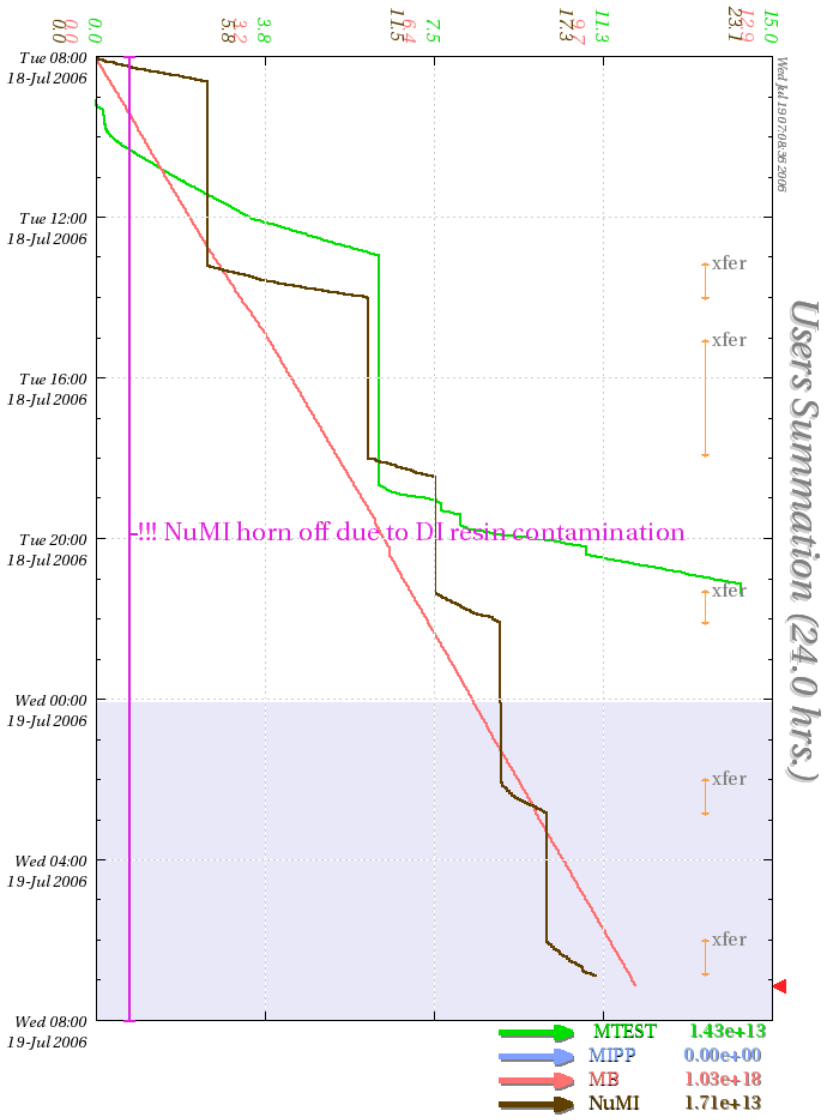
2006-07-19 9am Scheduling Meeting

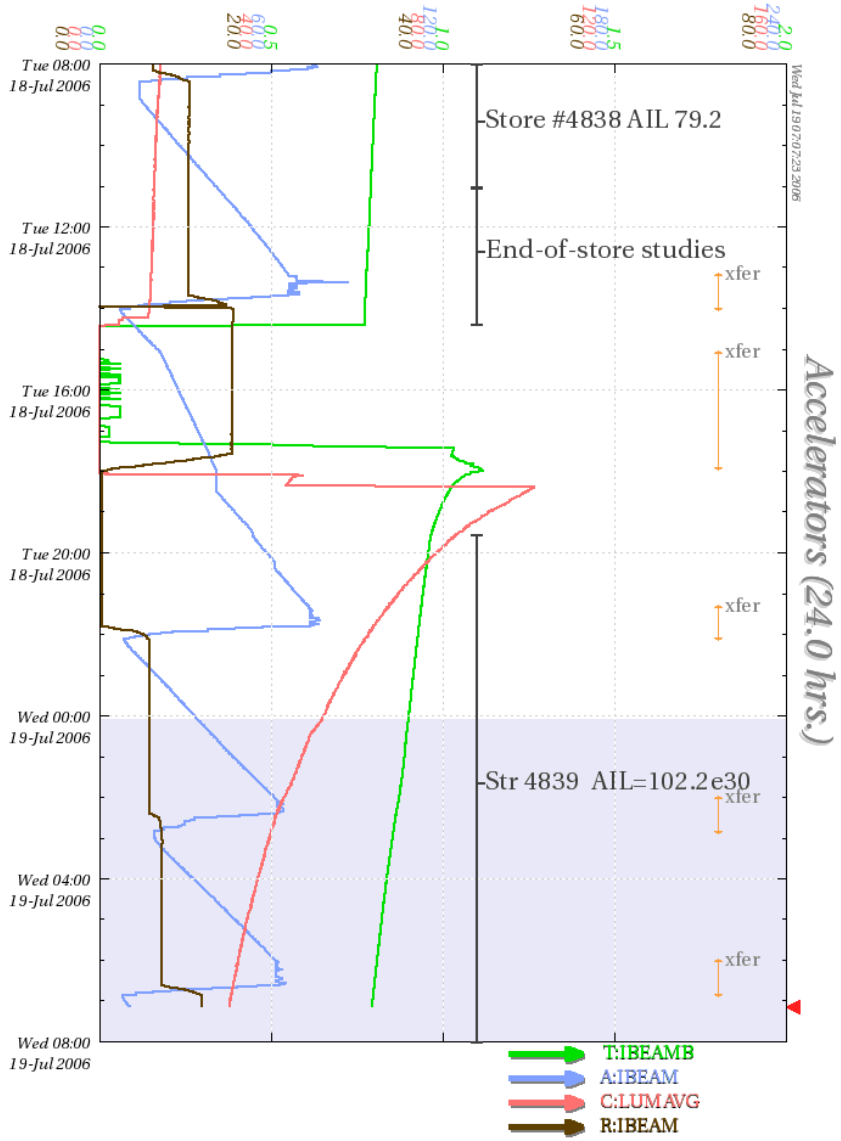
Wednesday, July 19, 2006
7:57 AM

- **Crew Chief Summary:**

  - **Users Plot**

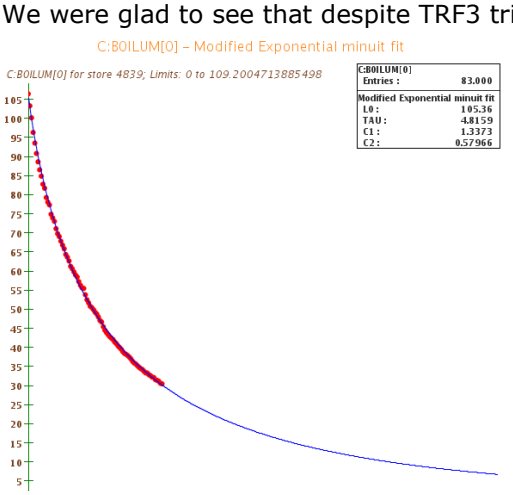


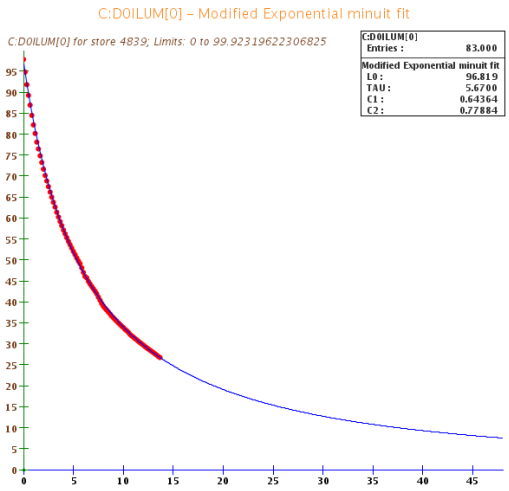
  - **Accelerators Plot**

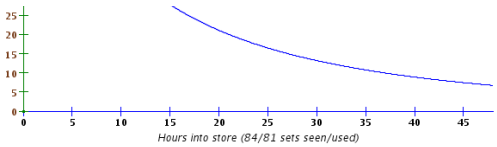


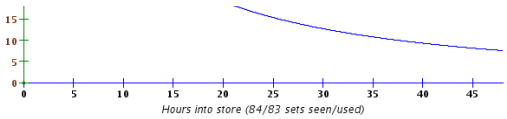
- Alarms report
  - m:b4wfl - 1475 times - From the memopad. Tolerances and hysteresis on alarm.
  - Email link to machine coordinators.

- **Notes from Run Coordinator:**
  - We were glad to see that despite TRF3 tripping, w









- Estimates are 27/25.5 hours for CDF/D0 to decay to 15e30.
- One bad set of transfers puts us behind on Pbars.
- Forecast shows some storms after midnight.
- Stack and build up the stash.

- **Machine Summaries**:
  - **Linac**
    - Summary:
      - 34.5ma, losses excellent
      - Tuned 750 KeV line and LLRF.
      - Got beam loading to be flat, which is reflected in the velocity meter.
      - NTF will do ball seed irradiation tonight and patient treatment tomorrow and Friday.
    - Request:
      - Put a single pre-acc notch to coincide with when the chopper fires. This should improve losses in the 400MeV. Experts wish to try this on the $1D to start. **Experts can schedule a time with the crew chief to complete this task.**
  - **Booster**
    - Summary:
      - Once Linac was tuned up, experts were able to make gains in Booster. We are currently running 11 turns for both stacking and MiniBooNE.
      - Ran well with the exception of BRF17 trips.
    - Requests:
      - RF experts would like 15 minutes of downtime to swap out a programming/grid supply on BRF17. **Experts can schedule a time with the crew chief to complete this task.**
  - **Main Injector**
    - Summary:
      - Experts worked on bunch rotation on $29 events. Feedforward beam loading compensation was tuned and improved beam quality.
      - New BPM were tested during reverse proton tuning. Experts ran into problems that they believe has to do with beam debunching before they can get the BPM signal. The MI60 North BPM upgrade will not be completed until this problem is fixed.
    - Requests:
      - Install a new BLM crate at MI40.
      - Complete more BPM tests during the next set of Recycler transfers.
      - Beta function measurements for wide aperature quad. This involves small three bumps during stacking for one or two hours. Experts promise little or no impact on operations. **Experts can arrange study time with the crew chief as long as stacking is not impacted as promised.**
  - **Pbar**
    - Summary:
      - Pbar Stacking Numbers
        - Best Stacking = 14.9 mA/hr. This is inline with the best stacking over the weekend.
        - Average Production = 14 e-6/proton. This is down a little bit.
        - Average Beam on Target = 6.7e12. This is a 12% increase.
        - Beam intensity is up, but stacking did not increase by an equivalent amount. It appears that the extra beam is not translating into extra

beam to the downstream AP2 line.

- Transfers
  - There were four transfers. Three of which were good and one of which as very bad.
    On the good transfers the efficiencies from Accumulator to Main Injector were 92 - 95%, and the overall efficiencies from Accumulator to Recycler were 89 - 93%
  - The efficiency on the bad transfer was only about 30%. It appears that beam coming out of the Accumulator had it's trailing bunches greatly attenuated. Experts are exploring a number of possible causes. Pbar will have experts available for the next transfer.
    - Flattop on extraction kicker not flat.
    - Something wrong with ARF4. This does not seem very likely since the bunches well formed and separated. A working ARF4 "Jello Display" would have shown this.
    - The most likely cause is a bad orbit. Orbit data seems to point to a 10-12mm error at the extraction lambertson, which would cause the beam to scrape in the AP3 line.
  - We are also developing a small energy mismatch between the Accumulator and Main Injector that is on the order of 0.5Hz. With the current LCW temperature regulation problems seen in the last day, experts would like to hold of on making a correction. A second heat exchanger was valved in on the Pbar 95 LCW system, that should stabilize the temperature.
- During Recycler transfers the ARF4 "Jello Display" scope does not load. Manual loading the file from P188 also fails. Experts were not aware that this was broken. **The Run Coordinator would like to see this scope fixed today.**

- **Tevatron**
  - Summary:
    - Completed end of store studies at the end of Store 4838:
      - Adjusted B48 separator. The current limit was set to low. Experts believe that this change helped luminosity.
      - Successfully changed horizontal angle thru D0.
      - Calibrated parameter page tune mults
      - Looked at the digital tune monitor.
    - Store 4839
      - TRF3 tripped during the squeeze. The result is a longer bunch length, that required tune changes to recover lifetime.
      - The abort gap intensity was up after the initial tune changes. More tune changes were needed.
      - The tunes are now in a good place.
  - Requests:
    - Look at alignment of the electron beam. This should be parasitic.
- **Recycler**
  - Summary:
    - Changed tunes to .413 and .419. Experts believe that lifetime a little better as a result of the change.
    - There were some bad numbers in flying wire measurements. Experts found two problems.
      - The Gate length of measurement was wrong
      - Operating voltages too low for low intensity transfers.
      - Both problems were fixed and should result in better flying wire numbers on the next transfer.
  - Requests:
    - Experts may request an hour of study time to look at the vacuum after the next set of transfers to the Tevatron. They would want to empty the Recycler to do this.
- **SY120**
  - Summary:
    - There were some problems with QXR on the evening shift. QXR seems to behaving now.
- **MiniBooNE**
  - Summary:

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    - Running well.
    - Dehumidifier holding tank will need to be emptied today. This is the tank upstairs and does not impact MiniBooNE operations.
- **NuMI**
    - Summary:
        - Today NuMI will electrically pulse the horn, while vacuuming the DI resin beads. The horn pulsing will need to be slow since there is no cooling. In order to accomplish this, the horn has been setup to pulse every five minutes independent of timeline.
        - If all goes well, NuMI could be ready for beam as soon as Friday day shift.
- **CDF**
    - Summary:
        - Store 4838: Ran with an efficiency of 86%.
        - Store 4839: Running with an efficiency of 83% so far. The largest downtime was about a half hour when most of Dzero's online computers froze and later unfroze on their own. There was also a period of 15-20 minutes of downtime when the abort gap was cleaned.
- **D0**
    - Summary:
        - Ran with an efficiency of 88% yesterday
        - This morning their main DAQ crashed. It is being brought back up. This caused at least two hours of downtime.
        - There are also intermittent trips in the muon PDT. The current theory is that the service cards are dirty and the high humidity is causing the trips. The solution is to re-seat the cards, but this requires an access of up to three hours.
    - Requests:
        - One to three hour access to fix the muon PDT card problem mentioned above. This is not a required access between stores, but if an access opportunity does arise, DZero will take advantage of it.
- **FESS**
    - Summary:
        - There are a number of ICW tests that are being put on hold due to Zebra Mussels clogging switchyard strainers after the last test. Luckily, CHL and Feynman did not see this problem. The next fire pump testing may be scheduled during the upcoming two shift D0 shutdown.
- **Linux Migration**
    - Summary:
        - Wally Kissel reminds us that it is time to test the switchtree programs for Pbar and Recycler. **Recycler and Pbar machine coordinators will talk to Wally about scheduling times to complete the tests.**
- **Alarms**
    - Summary:
        - Wally Kissel showed us our the Alarms History for the last 24 hours. This can be viewed from http://www-bd.fnal.gov/cgi-mcr/alarms.pl?DBquery=DBread&query=history. There were 18 devices displayed that posted alarms more frequent that once every 10 minutes. Once device alarmed more than once a minute over the last 24 hours! Two of the biggest problems are tolerances that are too tight and number of times a devices has to be out of tolerance to alarm set too small. **We would like machine coordinators to start looking at alarms for their areas and taking steps to mediate the number of alarms.**
- **SDA**
    - Summary:
        - New flying wire data has been added to both the Recycler and Tevatron shot scrapbooks. In the Recycler scrapbook emittance table, the flying wire data is in green text under the normal SDA data. In the shots scrapbook the flying wire emittance data is in brackets.
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- **The Plan**
    - Summary:
        - Continue to spin the store through at least the day shift. We will set a store termination time this evening.
        - Complete iterations of stack to 60ma and transfer to Recycler.